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# PERCEPTIONS OF THE AUTHORITIES AND MEDIA OF DRY SANITATION IN SWAZILAND



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# PERCEPTIONS OF THE AUTHORITIES AND MEDIA OF DRY SANITATION IN SWAZILAND

Sanitation is a key factor in preventing diarrhoea and other potentially fatal diseases to spread. One of the Millennium Development Goals of the United Nations was to halve the proportion of the people living without basic sanitation. This was expected to be achieved by 2015. Notwithstanding, the problem remains: worldwide 2.5 billion people, one third of humanity, still lives without access to basic sanitation. In Swaziland the proportion is even bigger: 43 per cent of the Swazi citizens live without access to these basic facilities.

Global Dry Toilet Association of Finland, Turku University of Applied Sciences, University of Swaziland and Green Living Movement Swaziland are working in cooperation under Mbabane Dry Sanitation and Waste Management Project. The project presents dry sanitation as a sustainable option to Swaziland: it controls the spreading of pathogens and produces organic fertilisers. However, in order to disseminate the practice to the country it is essential to understand what does the high-level think about it and what is their role in hindering or promoting the dissemination. This research supports the project to improve its cooperation and relations with the local authorities and media.

The objective of the study was to answer the four research questions that examined the perceptions, the origins and effects of the perceptions of the local authorities and media towards dry sanitation. It was also examined how the project could change those perceptions to more positive. Information was gathered by interviewing the local authorities and media representatives, project partners and some members of public.

The results showed that the perceptions towards dry sanitation are positive with some reservations. The challenge was not the inferiority of the practice per se but the novelty of it in Swaziland. The interviewees wished that the project would be more active in their relations with the high-level and provide more information about dry sanitation.

## KEYWORDS:

Attitudes, authorities, dry sanitation, media, perceptions Swaziland

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## SWAZIMAAN VIRANOMAISTEN JA MEDIAN SUHDE KUIVASANITAATIOON

Sanitaatiolla on tärkeä ennaltaehkäisevä rooli kuolemanvaarallisten tautien, kuten ripulin leviämisessä. Yhtenä YK:n vuosituhattavoitteista oli puolittaa sanitaation puutteesta kärsivien määrä vuoteen 2015 mennessä. Ongelmaa ei kuitenkaan ole vielä saatu ratkaistua: Maailmanlaajuisesti 2,5 miljardilla ihmisellä, noin kolmasosalla ihmiskunnasta, ei ole edelleenkään käytettävissään kunnollista käymälää. Swazimaassa osuus on vieläkin suurempi: 43 prosenttia väestöstä kärsii sanitaation puutteesta.

Mbabanen kuivasanitaatio ja jätehuoltohanke tarjoaa kuivasanitaatiota ratkaisuksi Swazimaan sanitaatio-ongelmiin. Hanketta toteuttavat yhteistyössä Käymäläseura Huussi, Turun ammattikorkeakoulu, Swazimaan yliopisto UNISWA ja Green Living Movement Swaziland. Kuivakäymälätekniikka eristää taudinaiheuttajat, jotteivät ne leviäsi ympäristöön, ja tuottaa samalla käyttäjilleen ihmisperäistä lannoitetta. Jotta uusi tekniikka voisi saavuttaa suosiota Swazimaassa, olisi tärkeää tietää, mitä ylemmän tason vaikuttajat ajattelevat kuivasanitaatiosta, sekä tunnistaa, mikä on heidän roolinsa uuden tekniikan levityksessä kansallisella tasolla. Tämä tutkimus pyrkii tukemaan hanketta sen tavoitteissa parantaa yhteistyötään ja suhteitaan edellä mainittujen tahojen kanssa.

Tutkimuksen tavoitteena oli vastata neljään tutkimuskysymykseen, joilla selvitettiin Swazimaan viranomaisten ja median käsityksiä kuivasanitaatiosta ja syitä eri käsityksiin. Lisäksi selvitettiin, miten hanke voisi muuttaa viranomaisten ja median käsityksiä positiivisemmiksi. Aineisto hankittiin haastattelemalla paikallisia viranomaisia, median edustajia, yhteistyökumppaneita ja yleisön edustajia.

Tutkimustulokset osoittavat, että käsitykset kuivasanitaatiosta ovat positiivisia pienellä varauksella. Kuivasanitaatio sinänsä koettiin positiivisena, mutta haasteena on vielä tekniikan tuntemattomuus Swazimaassa. Haastateltavat toivoivat, että hanke olisi heihin aktiivisemmin yhteydessä ja tarjoaisi enemmän tietoa kuivasanitaatiosta.

### ASIASANAT:

Asenne, kuivasanitaatio, käsitykset, media, Swazimaa, viranomaiset

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Figure 1. Agenda-setting role of the mass media (McCombs 2004, 5)**Virhe. Kirjanmerkkiä ei ole m**

## LIST OF ABBREVIATIONS

AIDS	Acquired immune deficiency syndrome
CC	City Council of Mbabane
EHEP	Environmental Health Education Project
GDTAF	Global Dry Toilet Association of Finland
GLM	Green Living Movement
GLM SD	Green Living Movement Swaziland
HIV	Human immunodeficiency virus infection
MDG	Millennium Development Goals
MDSP	Msunduza Dry Sanitation Project
MDSWMP	Mbabane Dry Sanitation and Waste Management Project
MFA	Ministry of Foreign Affairs Finland
PELUM	Participatory Ecological Land Use Management
PRSAP	the Swaziland Poverty Reduction Strategy and Action Plan
SBIS	Swaziland Broadcasting and Information Services
TUAS	Turku University of Applied Sciences
UN	The United Nations
UNAIDS	the Joint United Nations Programme on HIV/AIDS
UNISWA	University of Swaziland

# 1 INTRODUCTION

## 1.1 Sanitation is a matter of life and death

Sanitation is a key factor in preventing diarrhoea and other potentially fatal diseases from spreading. Globally about 3.6 million people die every year due to diseases caused by contaminated water. Usually, the faecal bacteria are to blame. In the lack of proper sanitation, people rely on open defecation: they may relieve themselves in the fields, ditches or even in plastic bags. (Global.finland 2009.)

One of the Millennium Development Goals of the United Nations was to halve the proportion of the people living without basic sanitation. This was expected to be achieved by 2015. Notwithstanding, the problem remains: worldwide 2.5 billion people, one third of humanity, still lives without access to basic sanitation. (UN 2015.) In Swaziland the proportion is even bigger: 43 per cent of the Swazi citizens live without access to these basic facilities. There is difference between urban and rural areas: in urban settings 63 per cent of people use improved sanitation facilities while in rural areas the percentage is only 49. (MDG 2014, 82.)

In dry sanitation faecal material is composted and used as a fertiliser, this prevents the spreading of the pathogens to the environment or to the water (Global.finland 2009).

## 1.2 Swaziland

Swaziland, officially known as the Kingdom of Swaziland is relatively small landlocked country in southern Africa surrounded by South Africa in the west and Mozambique in the east. Population of the country is about 1.2 million (UNStats 2014, 189). According to the HIV/AIDS program of UN, the UNAIDS (2014, A9) in 2013 27 per cent of the adult citizens of Swaziland were HIV positive. The figure is world's biggest. Average life expectancy is 49 years and 41 per cent of

the population lives below the official poverty rate, with less than 1.25 dollars per day (UNDP 2013, 146, 160.) Mbabane, the capital of Swaziland is situated to the north-west of the country inhabiting about 66 000 habitants (UNStats 2014, 189). Approximately 60 per cent of the habitants of Mbabane live in the informal settlement areas. (MDSWMP 2013, 3)

### 1.3 Mbabane Dry Sanitation and Waste Management Project

Mbabane Dry Sanitation and Waste Management Project (MDSWMP) is a joint effort between the Global Dry Toilet Association (GDTAF), Turku University of Applied Sciences (TUAS), University of Swaziland (UNISWA), and Green Living Movement Swaziland (GLM SD). The project is based on the work of the Msunduzi Dry Sanitation Project (MDSP) and the Environmental Health Education Project (EHEP) and on the network created during these projects. (MDSWMP 2013, 2.) The Mbabane Dry Sanitation and Waste Management Project receives funding from the Ministry of Foreign Affairs Finland.

From 2014 the MDSWMP has been working in Mnyamatsini, a rural area situated close to Mbabane, the capital city. There is no data of the current situation of the area, but the most recent data shows that about 3,300 people were living in the area in 2007 (Central Statistics Office 2007).

### 1.4 Problem statement

Pit latrine is the most common type of the toilet in the areas where there is no sewage system. It normally consists of a big hole dug at the backyard of a homestead, and the temporary superstructure. Wet faecal material draws flies and pathogens can easily contaminate the environment around the toilet and also the ground and surface water. Contaminated water can cause sicknesses in the people and the cattle either directly via drinking water, bathing or indirectly e.g. when people eat vegetables that are watered with the water. Contaminated water is a risk especially for vulnerable groups of people such as children and elderly. Sicknesses like diarrhoea can be even fatal. Serious cases are not



alien to Swaziland either. Last massive epidemic was encountered in July 2014 when more than 3000 children were infected by Rota-virus and 36 died. With better sanitation the pathogens would not reach the drinking water and cause such catastrophes. (IRIN 2014.)

The dry sanitation technology aims to change the way toilet waste is now seen as a problem into seeing it as a valuable source of nutrients, as an organic fertiliser. Mbabane Dry Sanitation and Waste Management Project (MDSWMP) is introducing dry sanitation as a new idea at the community level in Swaziland. This practice is therefore an innovation to these people. The dissemination of a certain innovation depends heavily on the attitudes of the people. Assuring people of the potential of the innovation and changing their perceptions takes time. The media and authorities play an important role in the innovation diffusion. The dissemination of dry sanitation practices eventually depends on the perceptions of these institutions. If they do not understand or like these practices, the innovation diffusion might be severely affected.

Media is delivering information and through it knowledge and awareness, according to McCombs and Shaw (2004, 2) it has also an agenda-setting role. Media is therefore in a key role when it comes to changing the perceptions of the people and the authorities.

Similar to media, also the power of the authorities lies in their role as opinion leaders. Additionally they have the power to e.g. regulate the laws, control the public discussions, create jobs, and promote issues they think are important. This means that issues they consider important will be easily disseminated. Alternatively if these people are against something for some reason they have the power to hinder or even prevent innovations such as the dry sanitation to disseminate.

The opinion of the media and authorities, the high level, will then affect the grass root level. Ordinary people may think that if the practices are not welcomed by the high level neither should they welcome them and again if the high level is promoting something it becomes easy to the ordinary people to accept

it. It is why the MDSWMP has identified these stakeholders as key stakeholders for the project.

### 1.5 Purpose and significance of the study

The purpose of this study is to find out the role of the media and authorities in disseminating innovative dry sanitation practices around Mbabane, Swaziland. The study aims to reveal the perceptions and knowledge of these stakeholders on dry sanitation practices. It will continue trying to find out what can be done in order to get the media and authorities more interested and supporting the dry sanitation.

The significance of the study lies in the findings and recommendations made according to the findings. This information is valuable to the Mbabane Dry Sanitation and Waste Management Project, which has named media and authorities as key stakeholders of the project. For the project to be sustained it is important that authorities and media support it as whole and absorb the new practices it presents. The problem is that there has not been done any valid studies on the matter in Swaziland before and it is therefore important area to be researched.

### 1.6 Objective and research questions

The objective of this study is to answer the following questions:

1. What are the perceptions of the authorities and media representatives of dry sanitation?
2. What are the reasons behind these perceptions?
3. How does their perceptions affect the work of these stakeholders? How does it affect the public opinion?
4. What can be done by the project to change the perceptions of these stakeholders to be more positive of dry sanitation?

## 2 LITERATURE REVIEW

In the bachelor's thesis made for the MDSWMP, Lotta Eriksson studied livelihood creation through dry sanitation value chain. The results showed that the majority of the interviewees had positive perceptions of either the use of the compost and urine as a fertilizer or of the sale of vegetables fertilized with those fertilizers. However, Eriksson continued that there are some challenges to which the project would need some help from the project partners and authorities. (Eriksson 2015, 71.)

According to the Ministry of Agriculture, there are no regulations or laws that regulate the use of the fertilizers produced by the dry toilets or the selling of vegetables fertilized with such fertilizers. Once the new fertilizer becomes popular there will be a need to set some, to ensure the safety of them. (Eriksson 2015, 52)

There are also numerous Bachelor's theses made for the previous dry sanitation project, Msunduza Dry Sanitation Project (2007 – 2013). Some of these theses provide some additional background information for this study.

The Bachelor's thesis Assessing project sustainability in development cooperation reveals that the local authority, the City Council of Mbabane has supported the Msunduza Dry Sanitation Project through the implementation and is promoting the dry sanitation after the project has ended. The City Council has also started other dry sanitation projects in other communities outside Msunduza. (Salla 2013, 48.)

According to Salla, regardless the good work the City Council of Mbabane acts also as a major factor hindering the use of dry toilet waste. The City Council requires scientific proof that the waste is safe to use. The use of the compost is therefore not recommended and even forbidden even though it has not been possible to make any tests due to insufficient testing facilities. (Salla 2013, 55.)

On the national level the MDSP has been able to support the national development goals by aligning with the Swaziland Poverty Reduction Strategy and Action Plan. Additionally, the ministry on health has participated the high-level courses organised under MDSP. During these courses the knowledge of the ministry was improved and some misunderstandings were corrected. (Salla 2013, 48.)

## 3 THEORIES AND KEY CONCEPTS

### 3.1 Dry Sanitation

In dry sanitation the toilet wastes do not mix with the water. Idea is that the human wastes are not something society should do everything to get rid of it but instead they are an excellent source of nutrients and that potential should not be wasted. In the dry toilet urine and the faecal material is separated, collected and made safe to handle. Composted faecal material and stored urine can be used as fertilisers. (GDTF, 2011.)

### 3.2 Authorities

The Encyclopædia Britannica (2015b) defines authority as “the exercise of legitimate influence by one social actor over another” and continues stating that maybe the most familiar authoritative social actor are governments. An English dictionary (Mauranen 2001, 46) defines authority as an “official organization that has the power to make decisions” adding that the phrase *the authorities* refers especially to the governmental authorities.

In this study terms authorities and local authorities refer to governmental authorities that work either on national or local level, in Swaziland. These authorities include the City Council of Mbabane, Ministry of Health, Ministry of Agriculture, Ministry of Natural Resources and Environment, Swaziland Environment Authority (SEA), Members of Parliament, and Community Leaders. The project area, Mnyamatsini is regulated by the Ministry of Health.

### 3.3 Media

Term media refers to collective communication outlets and tools that store and deliver information or data. It is usually used as a synonym of the mass media or the press, but as a term it is broader including social media. Media representatives usually refers to e.g. journalists and editors, but it may also include e.g. Bloggers. (Mauranen 2001, 458; Media 2014; Media 2015)

The roles of the mass media can be divided into three categories: commercial, denominational and informative. The commercial mass media is concentrated on highly popular issues i.e. issues that sell, while the denominational mass media aims to support specific power, e.g. political or religious power. Informative mass media concentrates on passing information of the surrounding phenomena and circumstances. The three roles are overlapping and exist generally together in different combinations. (Allard & Littunen 1979, 360.) It is questionable whether the informative role is possible in societies in which the generality of communication is dominated by the commercial or denominational mass media (Allard & Littunen 1979, 363).

In the 2015 World Press Freedom Index report Swaziland was ranked 155<sup>th</sup> of 180 countries. The index reflects the degree of freedom of the media in each country including the journalists, news organisations and bloggers. (RSF 2015.) Low rank indicates that the informative role of the media is quite restricted According to M. Mogekwu (2001, 21) the media can be subordinate to the government control. This means that the media in Swaziland is dominated by denominational mass media.

In Swaziland, the electronic media, including radio and television, are government owned. There are two national newspapers, Times of Swaziland and The Swazi Observer, of which the foregoing is privately owned and the latter is owned by the King's Tibiyo Trust. (Mogekwu 2001, 21.) In this study a total of three representatives from three national media were interviewed, including: Times of Swaziland, The Swazi Observer, and Swaziland Broadcasting and Information Services (SBIS).

### 3.3.1 Media dependency theory

The media dependency theory was introduced in 1976 by Sandra Ball-Rokeach and Melvin DeFleur. It introduces the idea that the influence of the media on its audience is related to the dependence of the audience on the media. The audience's dependency on the media is greater when 1) a medium performs a great number of social functions for the audience, e.g. informs, entertains, 2) the society is unstable due e.g. social change or conflict. (Media dependency theory 2015.)

There can be distinguished three potential effects that result from the great dependency of an audience on the media: cognitive, affective and behavioural. Cognitive effects come up as a changes in the attitudes, beliefs, and values of an audience. Cognitive effects include also the agenda setting role of the media. Affective effects include development of feelings towards an object as a result of exposure to information provided by the media. Behavioural effects include behavioural changes such as activation or deactivation of a certain behaviour, e.g. voting. (Media dependency theory 2015.)

### 3.3.2 Agenda-setting theory

According to the agenda-setting theory introduced by McCombs and Shawin 1972, the news media has an ability to influence the importance of different topics on public agenda. Over time, the media concentration on a few issues leads the public to perceive those issues as more important than those which do not get as much attention by the media. The agenda that has formerly been only the agenda of media becomes also the agenda of the public. Creating such salience among the public is the first step to formulate the public opinion. (McCombs 2004, 2)

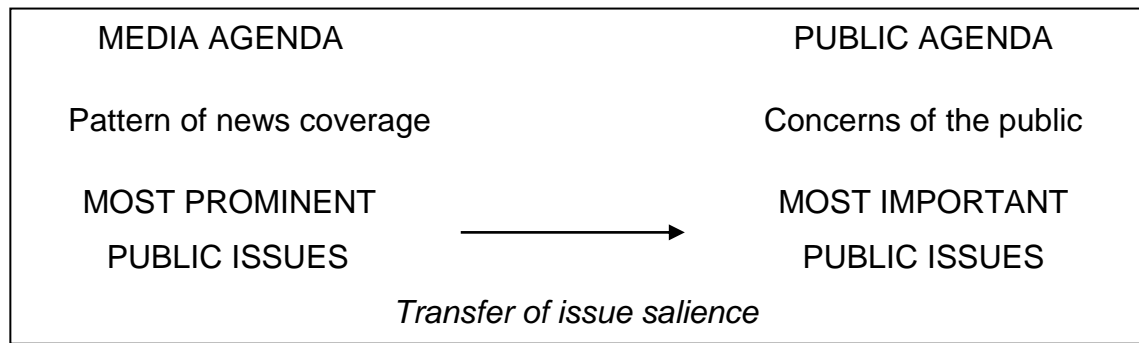


Figure 1. Agenda-setting role of the mass media (McCombs 2004, 5)

### 3.4 Stigma

Stigma can be seen as a process of despise, making someone to look bad or take the human right from a certain group of people or one of its members. A person that has been stigmatised is seen to be for instance an untidy, filthy or smelling non-human. Stigma can also relate to different activities that are considered to be either immoral, bad to the society or filthy. (de Albuquerque 2012, 4-5.) This means that especially sanitation workers but also other people related to the sanitation and waste management activities might get stigmatised. Influential people, such as authorities and media representatives, may hesitate to speak about sanitation issues being afraid to become stigmatised.

### 3.5 Perceptions, attitude and behaviour

A person's perception of something is the way they think about it or the impression they have of it (Mauranen 2001, 543) While this research studies perceptions, it is also interested in the attitudes behind them.

In social psychology term attitude refers to positive or negative feelings, beliefs and intentions that influence the behaviour of a person. Attitude has three components: cognitive, affective and behavioural. (Hirsjärvi 1983, 17.)

The cognitive component consists of beliefs, thoughts and attributes a person associates a certain object with (Hirsjärvi 1983, 17). For instance human waste



is commonly associated with negative attributes such as dirty, smelly, unhealthy etc.

The affective component refers to feelings and emotions that are linked to the object. The affective component often consist of a group of irrational reasons, therefore it can be hard to reason why a person feels the way they feel about a certain object. (Hirsjärvi 1983, 17.)

Behavioural component is based on the past behaviours and experiences regarding the object. Behavioural component is the willingness or readiness that enables a person to react to the object on perceptive level. The reaction can be, for instance, action, motion or facial expression. (Hirsjärvi 1983, 17.)

Attitudes are quite permanent and they are hard to be changed. Nonetheless, a slow change is possible especially in cases where a person gets new, relevant information about the object of an attitude. (Hirsjärvi 1983, 18)

As the Bohner and Wänke state (2002, 242) "A major reason why attitudes are studied is the belief that they guide behaviour." They continue that although the causal role of attitudes and behaviour has been studied in numerous studies many of them have failed to provide evidence for the close link between the two. Nevertheless, there is correspondence between a person's attitudes and their behaviour. The relation is higher if the measurement of the two concepts is made at the same level of specify. (Bohner & Wänke 2002, 242.)

## 4 METHODOLOGY

### 4.1 Research design

4.2 In this research the focus was on the authorities and media representatives working in the Mbabane area and surroundings. Mainly qualitative method was used to reveal the perceptions of these two key stakeholders on dry sanitation. The information was gathered empirically through interviews and observation. Sampling

#### 4.2.1 Sampling technique

The sampling technique was based on the purposive sampling, but the interviewees were also asked to suggest people who should be interviewed. This means the sampling was done partly using the 'snowball' sampling technique besides the purposive sampling.

#### 4.2.2 Sample size

Sample size will be defined during the data collection. When all the stakeholder groups are interviewed and the sample has reached the saturation point the sample size is enough. Saturation point is reached when the data seems to begin to repeat itself and no new information is comes up.

The sample consists in total of 27 interviews of which 17 were interviews of the authorities including one group interview of six people, three interviews of media representatives and seven interviews of members of public. The gender distribution was quite even: 52 per cent of the interviewees were men and 48 per cent were women.

### 4.3 Data collection and tools

The interviews were done in 2015, between February 4<sup>th</sup> and March 9<sup>th</sup>. The discussions were written down during the interviews and, with the permit from the interviewees, recorded by a recorder to avoid information to be lost.

The interviews were semi-structured and four version of questionnaires were used as a support (Appendices 2 -5). Data was also collected via evaluation form (Appendix 1) and observations made during the high-level workshop in September 24<sup>th</sup> 2014.

#### 4.3.1 Reliability and Validity

The qualitative approach means that the findings that are reported tend to be unreliable and hard to replicate.

The qualitative approach is subjective and impressionistic by its nature, and therefore the ways the data is categorised and information is interpreted differ considerably regarding who is the researcher.

It is possible that the information gathered by the interviews will be distorted. The interviewees may give more positive picture of the situation than it actually is in order to please the interviewer, or they want to use the interview to promote their interest. To ensure the reliability of the study the interviews will be compared to the observations.

Care must be taken so that cultural bias does not lead to the researcher's own values, norms or beliefs distorting the data collection.

#### 4.3.2 Data handling, organising and analysis

The main points of the recorded interviews will be transcribed and cross-checked with the notes made during the interviews. Thematic analysis will be used to organise and analyse the collected data. The interviews will be divided

into four different groups: Authorities, media representatives, partners and members of public.

#### 4.4 Ethical considerations

The participants must participate voluntarily, and they must understand the purpose and the procedures of the study. The participants must understand that they have the right to a copy of the results and they must understand the potential benefits of the study. Anonymity must be maintained. The details must be carefully explained within the report so as to allow readers the opportunity to judge the quality of the study for themselves.

#### 4.5 Dissemination of the results

The findings of this study will be reported in the Reporting Seminar in Turku on 3<sup>rd</sup> June 2015. They will also be available for the MDSWMP and the cooperative organisations behind the project. The hard copy of the study will be available in the TUAS library and the soft copy in the electronic library of Theseus.

The findings will be later disseminated in the high-level seminars held in fall 2015 under MDSWMP. GLM Swaziland will further disseminate the findings to its project communities. Also the partners of the MDSWMP will receive a copy of the final thesis.

## 5 RESEARCH RESULTS

### 5.1 Perceptions on sanitation

#### 5.1.1 Opinions on the numerical scale

##### Authorities and media

Unlike expected, the overall opinion towards dry sanitation was positive in both groups. The interviewees were asked to estimate their opinion towards dry sanitation with the help of a scale from 1 to 5, where 1 was very negative, 2 was negative, 3 was neutral, 4 was positive and 5 was very positive. The average of all 17 answers was 4.35.

Authorities were slightly more positive with their average of 4.43. The media representatives were unanimous and settled all for four.

##### Members of public

In the numerical scale none of the interviewees were negative about dry sanitation. The average of six answers was 3.83.

#### 5.1.2 Perceptions on current sanitation conditions

##### Authorities

Many of the authorities think that the sanitation is an important issue to the country. Representative from MoH mentions that the coverage is 56 per cent, and the country is leaving behind the MDGs. Open defecation is a problem especially in the poverty stricken communities. Also people are not aware of options they should be educated. Two interviewees are worried about the water contamination and diarrhoea that result from poor sanitation conditions. The representative from SEA tells that the infrastructure for water treatment is also limited with only 10 water treatment facilities nationwide. Representative from

MoH explains that the sanitation does not get much political support and water is priority in the agendas.

### Partners

The representative from UNISWA regards the sanitation as a big issue. To her the pit latrines are problematic in three different ways. First problem is the digging of the new holes. Old people do not have energy to dig and thus may not have an access to sanitation. Secondly the mixing of the urine and faecal material is a problem leading to stinking toilets if they are not ventilated. Thirdly the deep holes pose a hazard, and for instance children can fall into them and drown.

The representative from the City Council of Mbabane confirmed that the toilet standard in Swaziland is a pit latrine. According to her, the toilets are sometimes very poor and are not even ventilated. The flush toilets on the other hand attract people because the utility is white and nice looking, and the toilets can be easily kept clean. However, public flush toilets are often dirty and people do not know how to use flush toilets, they throw trash into them and the toilets get blocked. In case there is shortage of water, diseases like cholera can spread.

### Media

All three media representatives regarded sanitation as a very important issue. They thought that some diseases could be avoided if the sanitation conditions were better. Current problems related to sanitation are open defecation or lack of sanitation especially in the rural areas, health risks, scarcity of water, and possible pollution of the environment. Pit latrines are neither an option for e.g. poor or elderly people, or child headed families who are unable to dig holes. Flush toilets were seen to be problematic in the rural areas since there is no sustainable water supply or sewage system.

### 5.1.3 Strong points of dry sanitation

#### Authorities

Almost all authorities associated the dry sanitation to something healthy and clean. They thought that it would be a better option than pit latrines especially in the disease control.

The permanent toilet was a strong point to almost all interviewees. It was said to help the people who do not have land enough to dig new holes to the pit latrines and therefore it would be useful especially in the high-density areas close to cities. But as the representative from the MoH well noted, as far as the people do not have land for new pit latrines, they do not have land for farming either. Thus they would need a disposal site for the compost.

Dry sanitation toilets were also seen as an improvement to people's lives. Many authorities thought it would help especially the poor to generate more money. Having an own fertiliser would make the harvest better without expensive commercial fertilisers. The fact that people could also sell their fertiliser or the vegetables they grow was seen to be positive although then people would need to be educated about the safe use and some research should be done.

#### Media

All three media representatives thought that the strong point of the dry sanitation is that the toilets produce fertiliser. It forms a cycle where nothing goes to waste. Although it should be made sure that the people will know how to use the compost properly. It was also thought that it would not consume as much water, or affect the soil like the pit latrines. Digging new pits is also laborious and with dry toilet the people can save in the construct materials since it is only built once.

Dry toilets were also seen to be healthier, and modern. The representative from SBIS thought it would improve the quality of people's lives both in rural and peri-urban areas.

## Members of public

The members of public saw two benefits with the dry toilet. First, the owners can produce their own fertiliser and grow better plants, and secondly the toilet structure is permanent so no continuous digging is needed.

### 5.1.4 Weak points of dry sanitation

## Authorities

The persistence of the people was seen to be a challenge. Swazis think that it is not OK to handle human waste, and it should be e.g. buried instead. They are used to pit latrines or open defecation and the using of the compost is a taboo for them. It was noted by all the authorities that awareness should be raised people should be educated to overcome this problem. They were also hoping to get more information themselves about the dry sanitation. Five authorities were a little cautious and wanted to wait until they see the toilets in use or research done before they can give their full support to the dry sanitation.

Five authorities expressed their worry that the dry sanitation toilets are too expensive to build and the design is not suitable for everyone.

Some authorities were worried what would happen to the toilets after the project: Who would do the maintenance and would the people be motivated to continue the good work after the project had ended?

## Media

Another problem for the media people was the toilet design. They thought it was too expensive and laborious to construct. The representative from The Times of Swaziland did not think people would like to climb stairs to the toilet, she pointed out that the toilet should be on the ground level also for the disabled and elderly people to be able to use the toilet. Swazis have a stigma with using and handling of the human waste which could be solved by offering education but also by improving the chamber size so that the wastes will have enough time to



decompose. Education is also needed to make sure people know how to use the toilets and the fertiliser properly.

#### Members of public

Members of public did not name any weak points of sanitation, but two interviewees explained that they did not have enough information about dry sanitation and therefore were not able to say whether it is positive or negative intervention.

### 5.2 Level of knowledge of the authorities and media representatives about dry sanitation and MDSWMP

#### 5.2.1 Level of knowledge of the MDSWMP and dry sanitation

##### Authorities

All authorities told that they were introduced to the dry toilets and MDSWMP through the activities or through a project partner. One had also read about the project from a newspaper.

A total of three representatives from SEA, SEDCO and MoH explained that they were familiar with the dry sanitation even before the MDSWMP. The representative from MoH told that they had had a project on dry sanitation before but those Enviroloo-toilets were not working well enough. He had also heard about the previous dry sanitation project, Msunduza Dry Sanitation Project, which used a similar toilet design as the MDSWMP. He thought that those kind of toilets were better than Enviroloos, but they still had some challenges with e.g. the design. Also the representative from SEDCO had heard about the previous project. Representative from SEA had seen dry sanitation projects abroad in his previous job in UNICEF.

##### Media

The representative from The Swazi Observer is a member in the Advisory Board of MDSWMP and thus is quite familiar with the project. The other two representatives told that they had not heard much about the project before.

The representative from the Times of Swaziland said that all the information she has on dry sanitation, she has gotten coincidentally when she has been writing other articles. The project has never been in direct contact with her. However, she had heard about the dry sanitation from the project partner, City Council, when she was writing an article on recycling. For the representative from SBIS the idea of dry sanitation was new, he had not heard much about it before.

#### Members of public

Six interviewees said that they had heard about dry sanitation before. Three interviewees told that they had heard about it through media, and one of them further explained that she had read about dry sanitation from Times of Swaziland. One lady had heard about dry sanitation from the representative of GLM. The rest had either had dry sanitation toilets at school or heard people talking about it on the street.

### 5.2.2 Attending dry sanitation workshops

#### Authorities

Excluding the partners, 10 out of 15 authorities had attended the Media and Authority Workshop held in 23<sup>rd</sup> to 24<sup>th</sup> September, 2014. All the interviewees who had attended the workshop told that it was the first dry sanitation workshop they had took part. Only the representative from MNRE had taken part to some other sanitation related workshop as well.

All authorities who had not attended the workshop were interested to take part to the future workshops held by the MDSWMP. Also one interviewee was interested to learn more about dry sanitation and hoped there would be continuity for the first workshop she had took part.

## Media

Out of three media representatives only the representative from The Swazi Observer had attended the Media and Authority workshop. The other two told that they had taken part to other sanitation related workshops continuing that attending those workshops had had an impact on their perception of the topic. Also all three were interested to learn more about dry sanitation. Only the representative from Times of Swaziland thought that she would not need a workshop since she is capable to gather the information she needs from other sources instead. However, she wished that the project would provide new relevant material e.g. research results if any available.

### 5.3 Reasons behind the low interest and the role of authorities and media in disseminating the dry sanitation

#### 5.3.1 Reasons behind the low interest by authorities

## Authorities

According to the representative from the Ministry of Health, sanitation as whole is getting little attention from the authorities. It is not seen important and it does not give much political mileage compared to the water. Dry sanitation is also new in Swaziland and thus it is still unknown to many.

Actually most of the authorities suggested that the reason behind the low interest from their level is due to the lack of knowledge. And as one interviewee explains: “by the time they know about it they will just say one word: yes”. Solutions that were suggested included workshops, meetings, site visits and educational materials e.g. leaflets. The project should be also introduced in different forums, and in the parliament. Periodic advertisements and continuation with the workshops would be good.

Some of the interviewees were concerned that some the relevant stakeholders e.g. Ministries were not involved to the project. They expected that the project

would be more active and make sure that all the relevant stakeholders are included. Just by involving the authorities may have a positive effect on their perceptions of the project. It should also consider involving a higher level than it does now.

The representatives from MoA and MoH were pointed out that a research on fertilisers should be done and the project should provide instructions for safe use of the fertiliser. The Ministry of Agriculture has to approve the fertiliser before it can be used in commercial food production.

### Partners

According to the representative of UNISWA, some authorities are aware of the project and supportive. Nonetheless more authorities should be contacted to get the political will. Both partners suggested that relevant ministries such as Ministry of Health should be targeted. After all part of their mandate is to make sure the communities are sanitary. It would also be wise to have authorities using the dry toilets before they begin to promote the toilets. The information could be shared in meetings and special workshops arranged for these people, and also the site visit should be included.

Other important stakeholders that the MDSWMP should target are SEA, Swaziland Water Services Corporation (SWSC) and youth clubs in schools. The SWSC could also be interested to commercialise the compost collected from the dry toilets, but as the representative from the City Council noted, the company should get the waste free.

The City Council of Mbabane will not be very strict with the superstructure of the dry toilets. For them it is OK to build the superstructure out of locally available materials, but the chambers, the base of the toilets should not be sub-standard to avoid the chance of polluting the environment. The municipality is also approving the pit latrines if they are used accordingly i.e. ventilated etc.

### Media

All three media representatives agreed that the sanitation issues are not considered as a priority by the authorities. As one said: Swaziland has not been struggling in terms of sanitation that much compared to the neighbouring countries. The sanitation infrastructure is available so, without looking the benefits of different kinds of sanitation facilities, they push the issue aside and address other issues such as HIV.

To make the authorities understand the benefits of the dry sanitation they should be approached. "Maybe no one has introduced [dry sanitation] to them!" as one interviewee captures the low interest. To them the problem is very simple: authorities simply are not aware of this new innovation. To raise the awareness the interviewees suggest that the project should have meetings with the authorities and organise workshops to explain the importance of the improved sanitation conditions.

#### Members of public

Members of public were asked whether they think authorities find sanitation issues important in Swaziland. Four interviewees answered that the authorities think it is important. They talk about it in community meetings and health motivators teach about it. One explained that although they think it is important the problem is that they do not have enough money.

Three interviewees thought that the authorities do not regard sanitation issues as a problem. One added that sanitation is not a big problem since most of the people live in the cities, whereas other noted that he did not know about dry sanitation because the authorities are not talking about it.

### 5.3.2 Reasons behind the low media interest

#### Authorities

Most of the authorities thought that the media coverage of the dry sanitation is small because the media is not well informed about the project and dry sanita-

tion. According to them, educating the media representatives and sharing the information more actively could solve the problem.

Some authorities felt that the dry sanitation does not get the visibility it deserves. The media does support environmental and sanitation issues, but the public is less interested. As one of the interviewees said: "Media people are after interesting stories or they are after the money from the advertisements." The dry sanitation should therefore made more interesting to the public and the media. It would be good to highlight the benefits of the dry sanitation, how it improves lives and how it works. Also to get continuous reporting there should be interesting activities throughout the year. The project could be more proactive and provide photos and video clips to the newspapers and TV.

The Member of Parliament expected that the media coverage will follow after the authorities' attention is gained. After all, the authorities are the most people media is concentrated to.

## Partners

The Dean of the Faculty of the Health Sciences, the representative for the UNISWA, was happy how the media was involved in the Launch Day and how it had generated public interest. It was the first time they got to really know what dry sanitation is and they communicated it well. After all the media will cover issues that benefit the community. To make the interest last, the project must encourage the media to keep on writing about dry sanitation. In that way more people will hear about dry sanitation and the project and more interest will be generated.

To the representative of the City Council of Mbabane the media is not a problem. The problem is actually the project partners themselves, who do not market the project aggressively enough. She thinks that the media are willing to cover dry sanitation after they became understand what it is, and what are the benefits and disadvantages of it.

## Media

All three media representatives were interested to have news or articles on dry sanitation. Two of them had already published articles on dry sanitation, the representative from The Swazi Observer had published 5 or 6 articles under the MDSWMP and the representative from Times of Swaziland had published 2 articles in 2014. Only the representative for SBIS told that as far as he knows they had not had any stories dealing dry sanitation specifically. However, he told that the SBIS is interested in issues of sanitation. The problem is that the project has not shared much information and therefore their ability to disseminate the information is limited.

The challenge with the dry sanitation is that it does generate interest but not as much as other subjects. People are not comfortable to talk about sanitation, it is seen as an unappealing and private thing and therefore it is hard to write stories about it. Secondly the people do not consider sanitation as a problem or priority. They should be educated about the importance of sanitation and the consequences of poor sanitation conditions.

As the representative from The Swazi Observer pointed out “Sanitation does not make news. Only when there is a new innovation like dry sanitation or something dramatic happens like the sewage pipe bust in the Swazi Plaza.” The other two also noted that continuous reporting is a challenge with sanitation. It does not have a developing story to it unless something such as an outbreak happens. Nevertheless, it is possible to have it as a feature every now and then. To avoid repetition, it should be continuously changing the angle. Dry sanitation has potential in this and as the representative from SBIS says: “[Dry sanitation] really has a couple of areas that you can explore as a journalist” continuing that the topics under dry sanitation could vary from food security and agriculture, to health and cleanliness.

The representative from The Swazi Observer explained that the partnership with UNISWA brings authority and credibility to the articles. It becomes easier to the journalists to write about a subject when the information comes from the university and they can know that it is well researched. She thought that especially information related to the toilet waste should come from the UNISWA or

other credible institution because people will not trust her since she is not a user of the system. Therefore the information must come from someone who has used dry sanitation toilets or made research on them. She also suggested that someone from GLM could write articles for them to publish.

All three media representatives were interested to interview the toilet users. They thought that having a face on dry sanitation makes it more interesting and relevant. Besides having the reliable first-hand experience, the rest of the data and information can be easily told through the example, e.g. "This family does not have an access to sanitation. It has led to such and such..."

Ways to make dry sanitation interesting and newsworthy:

- drama
- new things: innovations, new project areas
- statistics
- photos
- credible information sources: Ministries, UNISWA
- first hand experiences, having a face on dry sanitation
- different angles
- making people understand the importance, consequences

Members of public

Members of public were asked whether they had heard about the dry sanitation from media and whether they would be interested to read or hear more about it through the media. Three interviewees had already heard about dry sanitation from the media, and all interviewees answered that they would be interested to learn more about it through the media. One noted that it would be wise to have dry sanitation in the newspapers since they have many readers and it is important technology.



### 5.3.3 How do the authorities and media see their role in disseminating dry sanitation

#### Authorities

From the ministries, MNRE and MoH are working in collaboration with the water projects. To make sure the sanitation issues are addressed, MoH begins with the sanitation and after that MNRE follows with the water. The representative from MNRE said that their role could be to advocate to MoH so that they will adopt dry sanitation. She has also a role as a WASH forum coordinator and she facilitates in different events on sanitation.

Sanitation is a key component to MoH. The MoH does not prescribe any toilets to the communities but let the communities to choose the best option for them. They want to have as many options as possible and it would be good to have dry sanitation as an option. Before that the people that work on the ground level should be educated by the ministry to make sure they understand what dry sanitation is. As long as the toilet prevents diseases to spread they do not have a problem with it.

The representative from MoA supervises the agriculture education for youths. According to her, they do not currently have any sanitation topics. She would be ready to advocate dry toilets and educate people by taking them to the site and explaining how the toilets work. To be able to do that she would need more education on dry sanitation. Also as noted before, the ministry should approve the fertiliser before it is used in the food production.

The role of the SEA is to act as a green police, as their representative explains. They do environmental assessment of health and sanitation on the national regulatory level. As he says, they support anything that enhances environmental protection and the health of the people. They do not implement, but instead they are neutral and do information dissemination via education. They can close poorly maintained public toilets and advice people to contact MoH or Health inspectors. He also told about the Environmental Fund which a group of people

could apply for e.g. improving sanitation with the conditions that the project will benefit the community and protect the environment. SEA handles the applications.

According to the representative the role of SEDCO could be the dissemination of information. They could distribute pamphlets. The project could also have a partnership with SEDCO and take part into their business workshops held around the country. A representative from MDSWMP could tell the farmers about the alternative for the expensive commercial fertilisers. He could also personally advocate the dry sanitation but he needs to get more researched information first.

The chairperson of the Committee of eHini told that their role was to have the dry toilets in that particular area to promote dry sanitation in the yearly Incwala ceremonies. The Incwala ceremony draws thousands of people every year to the area. The committee is also planning to have a community meeting in which they would promote dry sanitation. He himself would like to build a dry sanitation toilet to his homestead.

The councillors of Inkhundla Administration of Lobamba were ready to train their communities only if they will get more education on dry sanitation. They have also plans of constructing four dry sanitation toilets to Lobamba. In order to do that they would need the MDSWMP to contribute with some materials.

The Member of Parliament explained that he has already promised to support dry toilets in his area and he has even involved himself financially. He would be ready to advocate dry sanitation, but to be able to do that he needs some more information about it. He could also support financially dry sanitation projects.

## Partners

The Dean of the Faculty of the Health Sciences of UNISWA saw that their role as a university will be the research and serving the communities.

The representative from the City Council of Mbabane said that her role in disseminating dry sanitation is to promote the language and raise awareness. She

also commented that people expect the City Council to come and collect the compost, but the municipality do not have a land for such activity.

#### Media

The representative from The Swazi Observer promised to write more stories on dry sanitation in the future. She will promote it because she thinks it is a very good innovation.

The representative from SBIS thought that the project should have a working relationship with them so that they could play their role and inform the public. He also promised that the channel "will promote dry sanitation project" and continued that their role could be creating the public interest. He was very interested of the topic and planned that the channel could have someone to interview a project representative before the end of that week.

The representative from Times of Swaziland thought that she could continue writing articles on dry sanitation and in that way advocate the practice. She had already written an article explaining how the dry toilets work, why they are important and why people should consider them as an option.

### 5.4 Perceptions on the project and how the project should change its work

#### Authorities

To most of the authorities the project was a good initiative. They said it is a good pilot project, well managed and while still new it has already had an impact to the beneficiaries.

There were many ideas on how the project could improve its work. Most authorities spoke about the importance of education once the topic is new and people have negative preconceptions on usage of the human waste. Also in order to expand to other areas two authorities suggested that the project could have a road show around the country. The representative from SEDCO saw that the project could grow big but to do that it would need major financing un-

like now. He thought that the project could also seek financial support from companies, who have social responsibility programs. Also they should be contacted more frequent to get more media interest. One interviewee was worried that the toilets get identified with the place, e.g. the church, where they are constructed.

### Partners

The partners emphasised the importance of providing education to the people. Also the representative from the City Council of Mbabane noted that the quickest way to make the dry sanitation toilets common in Swaziland is to prove they are safe, therefore the research should be done soon. She also said that the project should find a way to make the toilets economically viable to the people.

### Media

The representative from The Swazi Observer had expected that the dry sanitation toilets would be more common by now. She criticises that there is no one talking about the dry sanitation on the community level. The project should be more present. To her constructing pilot toilets is not enough. She thinks that the project should motivate the people by providing some constructing materials, even as little as a bag of cement could be enough. The MDSWMP should also change the building so that it will be on ground level, share information e.g. explain the people how dry sanitation works and how it will help them, and provide technical expertise.

The representatives from SBIS and Times of Swaziland were not very familiar with the project. The representative from Times of Swaziland said that she does not have an opinion about the project, because she does not even know what the project is all about.

## 6 CONCLUSIONS

The study had two aims: the first was to reveal the perceptions and knowledge of Swaziland's authorities and media of dry sanitation. Another aim was to find out what the MDSWMP could do in order to get those stakeholder more interested in and supportive of dry sanitation.

The results showed that the perceptions of dry sanitation were positive with some reservations. It was seen that the dry sanitation is still quite new technology in Swaziland and therefore the high-level is not familiar with it. They would need more information about the dry sanitation. Additionally, MDSWMP should be more active in its relations with the high-level to ensure they are well aware supportive of the project. The suggestions how the MDSWMP could improve its work can be found under Suggestions for the MDSWMP.

### 6.1 Discussion

The research results proved to be in agreement with the previous results of Eriksson (2015, 71). As the study reveals, the overall perception seemed to be positive with some reservations. Similar points were raised throughout the study. For instance, the need for more information, especially for research results on the safety of the dry toilet waste was expressed to be an urgent issue. (Eriksson 2015, 71.) If the project would provide this information, it would alleviate the stigma associated with human waste, and the authorities could support the dry sanitation more actively (Eriksson 2015, 53).

The importance of involving media and authorities better to the MDSWMP was raised many times in the interviews. As the media dependency theory and the agenda-setting theory showed, the media is a powerful force in the process of shaping one's attitudes and perceptions. Although it does not have legitimate authority such as regulation of the laws or budgeting money for sanitation as the authorities have, it has the power to pick up topics. (Media dependency theory 2015; McCombs 2004, 2.) As the agenda-setting theory explains, being able to

choose what people will learn from the media eventually shapes the public agenda and finally the political agenda (McCombs, 2). In these conditions, it is essential for a project to be recognised, not only by authorities, but also by the media.

Since sanitation is a taboo in the Swazi society it had to be taken account that some people may feel uncomfortable when talking about it and therefore some strong points might be left out. Participants preferred to use euphemisms when they were talking about e.g. using the toilet, the faecal material or HIV, but it did not impede severely the interpretation. It is impossible to say whether individual participants could have raised more strong points, but this error is avoided by conducting multiple interviews.

When interviewing the members of public, it became evident that the interpreter is essential in order to make sure there is no information lost due to the language barrier. Additionally it should be taken into account that the Swaziland is a semi-literature society and therefore the interview structure should be made easy to understand. Conducting interviews randomly on the street seemed to be new to the interviewees but the presence of the local interpreter helped them to understand the situation. In some interviews it seemed that some information was lost due to complex questions.

In the future studies it would be interesting to research the interest of different companies and financial institutions in supporting the MDSWMP, since this study had only one representative, SEDCO, from this area. With bigger funding the project could overcome the challenges it has with e.g. visibility.

## 6.2 Suggestions for the MDSWMP

The following strategies and suggestions for the MDSWMP are made to support the planning of the future activities of the project. These suggestions are based on the research results presented in this study.

How is it possible that a journalist from one of the two national newspapers is not aware, what is MDSWMP about? Make a strategy how the media will be involved better:

- Send press releases to the most important media houses (The Swazi Observer, Times of Swaziland, SBIS, Swazi TV etc.) every time there is something new and interesting to report, e.g. some research has been done, the project has expanded to new areas, a workshop will be held.
- Meet personally the media people and make sure they are aware what the project is and what possible topics it could provide. Also discuss if the project could provide some materials for them to use, e.g. articles, videos, photos.
- Make a strategy for such times when there is a high interest on sanitation issues e.g. in case there is an outbreak. What is the approach to the media? How to communicate respectfully that the project could provide a solution to the poor sanitation conditions which are, in many cases, the source of the diarrhoea causing pathogens?

Make a strategy how the authorities will be involved better.

- To make sure the high-level takes it as their own, they must be a part of the planning or at least they must be kept updated what MDSWMP is doing. It is essential to involve the relevant ministries since they have a big influence in the country. Other stakeholders are interested to know what the ministries have to say about dry sanitation. Therefore they have a big role in either supporting or hindering the dissemination of dry sanitation practices.
- How well are the members of WASH-forum aware of the project? Be more active in the WASH-forum meetings and make sure all participants know the basic information of the project and have the contacts of the project coordinator. Could the MDSWMP be further introduced in these WASH-forum partner organisations? How could the WASH-forum part-

ner organisations participate in the dissemination of the dry sanitation? Could MDSWMP provide leaflets, posters or other materials for them to distribute in their offices, meetings, event etc.?

Investigate the different opportunities of getting support from the companies

- The project should investigate whether there is interest within companies to support the work of the MDSWMP and what could be the different ways they could participate? Do the companies have interest to support the project e.g. under their social responsibility programmes? Would they be interested to sponsor the project?

Make most of the visibility opportunities

- Attend different events, e.g. celebrate World Water Day, Earth Day, World Environment Day, World Soil Day. Communicate about it to different media, e.g. offer articles about the day's topic.
- Be present in the internet. Publish updates in the partners' homepages, and in social media (Facebook, Twitter, YouTube, blog)
- Take advantage of the UNISWA and its authority in Swaziland. Publish scientific articles on the results in both scientific and national media.
- Consult media representatives about possible topics. Publish articles under the MDSWMP e.g. telling first hand experiences of the dry toilets.



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## **Evaluation of the media and local authority workshop**

1. Did the workshop meet your expectations?
2. What are your comments on the workshop proceedings?
3. Did the topics presented meet your expectations?
4. What were the strong points and the weak points of the presentations?
5. What are your comments on the discussions?
6. What were the strong points and the weak points of the given materials?
7. What more did you expect this workshop could have covered?
8. Do you have other comments?

## Questionnaire structure for interviewing Authorities and Media representatives

### Introduction

My name is Katja Kivikoski I am a student in Turku University of Applied Sciences in Finland. I am doing my bachelor's thesis for the Mbabane Dry Sanitation and Waste Management Project. The project is interested to know what people think about the dry sanitation, especially on the high-level. This interview is voluntary and it is made by protecting the anonymity of you as an interviewee. I will collect the data such as name and your organisation's name, but this information is only for the research purposes and it will not be published.

Name	
Organisation	

### Questionnaire

1. Is the idea of dry sanitation familiar to you? *(Where have you heard about it?)*
2. How would you explain dry sanitation to someone who is not familiar with the idea?
3. Describe your image about dry sanitation. *(What do you think of dry sanitation? Strong/weak points?)*
4. Have you attended sanitation or dry sanitation workshops? *(Would you be interested to attend one? Why? / Do you think your idea of dry sanitation has changed after the workshop[s]?)*
5. How important topics do you think dry sanitation, sanitation or waste management in general are to you as a professional? *(How much do you deal these issues in your work? Give an example, how do you deal them.)*
6. Is the Mbabane Dry Sanitation and Waste Management Project familiar to you? *(How have you heard about it?)*
7. What is your image about the project? *(How would you comment the way the*

8. *project is bringing the DTs to Swaziland? What ideas do you have on what could be done better by the project?)*
9. In general what do you think are the biggest challenges to get dry sanitation more common in Swaziland? *(How should MDSWMP change their work to disseminate DTs better to Swaziland?)*
10. What do you think are the reasons why dry sanitation as an innovation does not get more attention by the authorities? *(What should be done to get local authorities support dry sanitation more actively?)*
11. What do you think are the reasons why dry sanitation as an innovation does not appear more in the media? *(What should be done to get more media interest on dry sanitation?)*

### **Closing**

Thank you very much for the interview. I will give you my contacts if you want to contact me later.

You will be informed after the research is done about the results and you have the right to get a copy of the results. In the case I need to check some information later, is it ok if I approach you via email?

## Questionnaire structure for interviewing Authorities

### Introduction

My name is Katja Kivikoski I am a student in Turku University of Applied Sciences in Finland. I am doing my bachelor's thesis for the Mbabane Dry Sanitation and Waste Management Project. The project is interested to know what people think about the dry sanitation, especially the high-level.

The Mbabane Dry Sanitation and Waste Management Project was launched in 2014. It aims to improve the environmental health of three project areas near Mbabane by improving the sanitation and waste management in these areas.

Another project objective is to disseminate improved sanitation and waste management schemes to other areas of Swaziland.

In order to reach the objectives the project educates community members on safe sanitation, environmental health, waste reuse, recycling and reducing, composting, organic gardening and grey water reuse.

So far under dry sanitation the project has held dry sanitation workshops for the community and the high level, and it has constructed two composting dry toilets to the Mnyamatsini community.

This interview is voluntary and it is made by protecting the anonymity of you as an interviewee. I will collect the data such as name, contacts and your organisation's name, but only the organisation's name will appear in the research.

### Questionnaire

1. Is the idea of dry sanitation familiar to you? *(Where have you heard about it? / What do you think dry sanitation is?)*
2. How would you explain dry sanitation to someone who is not familiar with the idea?
3. On a scale of 1 to 5, what is your image about dry sanitation? *(1 is very negative, 2 is negative, 3 is neutral, 4 is positive and 5 is very positive)*
4. Describe your image about dry sanitation. *(What do you think of dry sanitation? Strong/weak points?)*
5. Have you attended sanitation or dry sanitation workshops? Which? *(Would you*

6. *be interested to attend one? Why? / Do you think your idea of dry sanitation has changed after the workshop[s]?)*
7. What do you think, how important topic sanitation is for the Swaziland as a country? (*What are the main challenges related to the sanitation in Swaziland?*)

In 2012 total of 57.5 % of the population was using improved sanitation facilities.<sup>1</sup> This means that 42.5 %, over 523 000 citizens were living without access to a proper sanitation facilities.<sup>2</sup>

Access to improved sanitation facilities reduces average 28 % of the diarrhoea cases.<sup>3</sup>

Last serious epidemic was encountered in Swaziland in July 2014, when 3 042 cases were recorded and 36 children died. Medical consultant Andrew Mkhonta was blaming the poor sanitation and hygiene conditions.<sup>4</sup>

8. How important topic sanitation is to you as a professional? (*How much do you deal with these issues in your work? Give an example, how do you deal with them.*)
9. How do you see the role of dry sanitation in improving the sanitation conditions in Swaziland?
10. Would you be ready to promote or advocate dry sanitation? (*What could be your role to get dry sanitation more common in Swaziland?*)
11. Is the Mbabane Dry Sanitation and Waste Management Project familiar to you? (*How have you heard about it?*)
12. What is your image about the project? (*How would you comment the way the project is bringing the DTs to Swaziland? What ideas do you have on what could be done better by the project?*)
13. In general what do you think are the biggest challenges to get dry sanitation more common in Swaziland? (*How should MDSWMP change their work to disseminate DTs better to Swaziland?*)
14. What do you think are the reasons why dry sanitation as an innovation does not get more attention by the authorities? (*What should be done to get local authorities support dry sanitation more actively?*)
15. What do you think are the reasons why dry sanitation as an innovation does not appear more in the media? (*What should be done to get more media interest on dry sanitation?*)

## Closing

Thank you very much for the interview. I will give you my contacts if you want to contact me later.

You will be informed after the research is done about the results and you have the right

to get a copy of the results. In the case I need to check some information later, is it ok if I approach you via email?

Lastly, can you think of some organisations or people I must or should interview for my research? I am doing this in order to make sure that all the important organisations for my topic will be included to the research.

**Sources:**

1. MDG Report 2014: Assessing Progress in Africa toward the Millennium Development Goals. (page 82)
2. UNStats 2014. World Statistics Pocketbook 2014. (page 189)
3. Tropical Medicine and International Health 2014. Burden of disease from inadequate water, sanitation and hygiene in low- and middle-income settings: a retrospective analysis of data from 145 countries. (page 897)
4. IRIN 2014. Poor sanitation, poverty behind Swazi diarrhoea outbreak. Retrieved 8.2.2015.  
<http://www.irinnews.org/report/100430/poor-sanitation-poverty-behind-swazi-diarrhoea-outbreak>.



## Questionnaire structure for interviewing Media representatives

### Introduction

My name is Katja Kivikoski I am a student in Turku University of Applied Sciences in Finland. I am doing my bachelor's thesis for the Mbabane Dry Sanitation and Waste Management Project. The project is interested to know what people think about the dry sanitation, especially the high-level.

The Mbabane Dry Sanitation and Waste Management Project was launched in 2014. It aims to improve the environmental health of three project areas near Mbabane by improving the sanitation and waste management in these areas.

Another project objective is to disseminate improved sanitation and waste management schemes to other areas of Swaziland.

In order to reach the objectives the project educates community members on safe sanitation, environmental health, waste reuse, recycling and reducing, composting, organic gardening and grey water reuse.

So far under dry sanitation the project has held dry sanitation workshops for the community and the high level, and it has constructed two composting dry toilets to the Mnyamatsini community.

This interview is voluntary and it is made by protecting the anonymity of you as an interviewee. I will collect the data such as your name, contacts and position and your organisation's name, but only the organisation's name will appear in the research.

### Questionnaire

1. Is the idea of dry sanitation familiar to you? *(Where have you heard about it? / What would you think dry sanitation is?)*
2. How would you explain dry sanitation to someone who is not familiar with the idea?
3. On a scale of 1 to 5, what is your image about dry sanitation? *(1 is very negative, 2 is negative, 3 is neutral, 4 is positive and 5 is very positive)*
4. Describe your image about dry sanitation. *(What do you think of dry sanitation? Strong/weak points?)*
5. Have you attended sanitation or dry sanitation workshops? *(Would you be interested to attend one? Why? / Do you think your idea of dry*

6. *sanitation has changed after the workshop[s]?)*
7. What do you think, how important topic sanitation is for the Swaziland as a country? (*What are the main challenges related to the sanitation in Swaziland?*)

In 2012 total of 57.5 % of the population was using improved sanitation facilities.<sup>1</sup> This means that 42.5 %, over 523 000 citizens were living without access to a proper sanitation facilities.<sup>2</sup>

Access to improved sanitation facilities reduces average 28 % of the diarrhoea cases.<sup>3</sup>

Last serious epidemic was encountered in Swaziland in July 2014, when 3 042 cases were recorded and 36 children died. Medical consultant Andrew Mkhonta was blaming the poor sanitation and hygiene conditions.<sup>4</sup>

8. How do you see the role of dry sanitation in improving the sanitation conditions in Swaziland?
9. How much do you deal with sanitation issues in your work?
  - A. Print media: Have you published news or other articles on sanitation or dry sanitation? (*How many? Which topics? / Would you be willing to do so?*)
  - B. Radio/TV: Have you discussed sanitation or dry sanitation in your program/show? (*How often / many times? What was the discussion about? Topics? / Would you be willing to do so?*)
10. What are the reasons why sanitation and dry sanitation do not get more interest by this media house and media in general? (*What should be done to get more media interest on dry sanitation? e.g. What kind of story of dry sanitation do you think would sell? Who should be educated?*)
11. Would you be ready to promote or advocate dry sanitation? (*What could be your role to get dry sanitation more common in Swaziland? e.g. a sanitation theme show, continuous reporting on sanitation*)
12. Is the Mbabane Dry Sanitation and Waste Management Project familiar to you? (*How have you heard about it?*)
13. What is your image about the project? (*How would you comment the way the project is bringing the DTs to Swaziland? What ideas do you have on what could be done better by the project?*)
14. In general what do you think are the biggest challenges to get dry sanitation more common in Swaziland? (*How should MDSWMP change*

15. *their work to disseminate DTs better to Swaziland?)*

16. What do you think are the reasons why dry sanitation as an innovation does not get more attention by the authorities? *(What should be done to get local authorities support dry sanitation more actively?)*

### **Closing**

Thank you very much for the interview. I will give you my contacts if you want to contact me later.

You will be informed after the research is done about the results and you have the right to get a copy of the results. In the case I need to check some information later, is it ok if I approach you via email?

Lastly, can you think of some organisations or people I must or should interview for my research? I am doing this in order to make sure that all the important organisations for my topic will be included to the research.

### **Sources:**

1. MDG Report 2014: Assessing Progress in Africa toward the Millennium Development Goals. (page 82)
2. UNStats 2014. World Statistics Pocketbook 2014. (page 189)
3. Tropical Medicine and International Health 2014. Burden of disease from inadequate water, sanitation and hygiene in low- and middle-income settings: a retrospective analysis of data from 145 countries. (page 897)
4. IRIN 2014. Poor sanitation, poverty behind Swazi diarrhoea outbreak. Retrieved 8.2.2015. <http://www.irinnews.org/report/100430/poor-sanitation-poverty-behind-swazi-diarrhoea-outbreak>.

## Questionnaire structure for interviewing Members of public

### Introduction

My name is Katja Kivikoski I am a student in Turku University of Applied Sciences in Finland. I am doing my bachelor's thesis for the Mbabane Dry Sanitation and Waste Management Project. The project is interested to know what people think about dry sanitation, especially on the high-level. I am now studying what ordinary people think is the attitude of the authorities and media.

A dry toilet is a permanent toilet which has two chambers and seats that separate urine and faecal material. After using the toilet the users add some dry material (e.g. Ash, sawdust) in order to dry the faecal material. After one chamber is full, it will be sealed and the users will continue to use the other chamber. The faecal material is left to the first chamber to decompost. After the decomposting process is ready the compost can be used as a fertiliser. Separated and stored urine can be diluted and used likewise as a fertiliser.

This interview is voluntary and it is made by protecting the anonymity of you as an interviewee. I will collect the data such as name, contacts and the name of the community but only the name of the community will appear in the research.

### Questionnaire

1. Is the idea of dry sanitation familiar to you? Where have you heard about it?
2. Have you...
  - a. Seen articles about dry sanitation in the newspapers or magazines?
  - b. Heard about it in the radio?
  - c. Seen it in the tv?

*(What kind of topics?)*

3. Would you be interested to read or hear more about dry sanitation from the media? Why?
4. Do you think authorities (*government/leaders*) find sanitation issues

5. important in Swaziland? Explain, why?
6. On a scale of 1 to 5, what is your opinion about dry sanitation? (*1 is very negative, 2 is negative, 3 is neutral, 4 is positive and 5 is very positive.*)

**Closing**

Do you have any comments or questions before we close? Otherwise thank you very much for the interview